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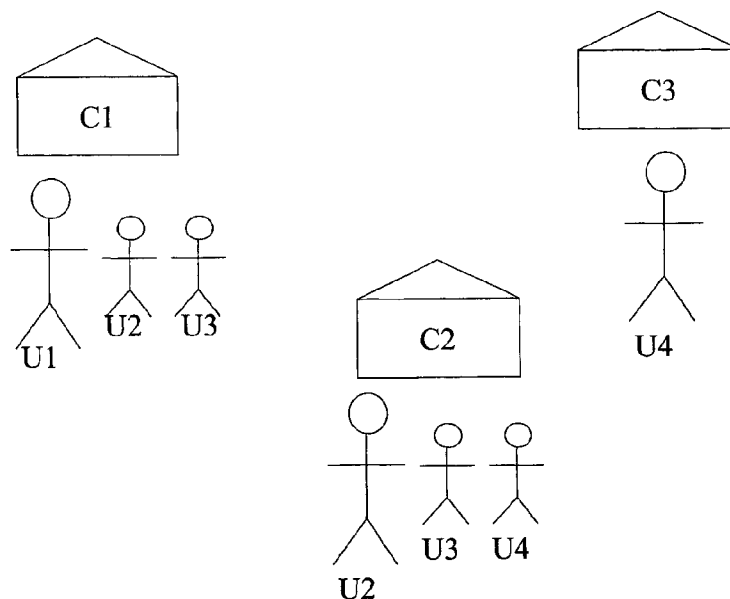
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(54) Title: A METHOD AND A SYSTEM FOR PROVIDING INTELLIGENT SERVICES



(57) Abstract: The present invention relates to a method and a system for providing users with access to services. The services are provided via an access provider. A client structure, associated with the access provider, includes a number of associated services made available by the access provider. Each client structure has at least one assigned user. A first user in a first client structure is provided with the ability to give a second user assigned to a second client structure authority to access said first client structure.

A METHOD AND A SYSTEM FOR PROVIDING INTELLIGENT SERVICESTechnical field of the invention

The present invention relates to a method and a system for providing intelligent services, in particular
5 for providing users with access to such services.

Background art

In today's society there is a great flow of information. New technologies make the flow faster and
10 faster. An example of large information quantity is the Internet, where not only readable information is available, but also information in the form of different types of services.

It is becoming more and more important for the
15 different services (including information) to be easily accessible. For instance, in large companies with many employees it is of great relevance for certain persons to have some sort of access to certain services. Some persons may not need to use more than a part of a
20 specific service, while others may need to have full access to all features included in the specific service.

There are of course many examples where the access of services are of importance. An example is different companies interchanging services, another one is on a
25 private level when a parent wants the children to have access to certain services accessible by the parent.

Even though there are many different systems which are meant to facilitate the access to services, they are not fully satisfactory, and not flexible enough.

30 Also, the great number of different systems often have different respective types of login procedures for accessing services provided via the systems. Thus, a person wishing to access services in several systems must learn and remember the various login procedures.

The concept of "intelligent homes" has increasingly become a field of great interest and growing attention. There is an abundance of different applications, such as for instance controlling or monitoring electrical
5 appliances, heating, etc. However, there still remains some problems, for instance related to the people living in the house currently not having access possibilities. People still tend to be dependent of friends or neighbours, to whom e.g. keys are lent for allowing them
10 to enter the house.

Summary of the Invention

An object of the present invention is to achieve a method and a system of providing service access, which
15 method and system are more flexible than prior art solutions.

Another object of the invention is to make it easy for persons and companies to access relevant services.

Yet another object of the invention is to associate
20 users with various services provided from different respective providers.

These and other objects will become apparent in the following description.

According to one aspect of the present invention a
25 method is provided, in which users in client structures are provided with access to services. The services are provided via an access provider. A client structure, associated with the access provider, includes a number of associated services made available by the access
30 provider. Each client structure has at least one assigned user. A first user in a first client structure is provided with the ability to give a second user assigned to a second client structure authority to access said first client structure.

35 According to another aspect of the present invention a system is provided, in which system users are provided with access to services. The system includes a server

providing an interface for enabling different users to interact with the system; a service control module for enabling different service providers to interact with the system, said service control module, being operatively
5 connected to said server; said server including a database with different client structures, each client structure being associated with a client and including at least one authority profile with which a user of the client structure has the authority to give a second user
10 of a second client structure authority to access said client structure.

Throughout this disclosure the following definitions will apply:

An *access provider* provides a commercial
15 infrastructure for intelligent services.

A *service provider* provides intelligent services.

A *service* can be any type of information or object which may be accessible or subject to manipulation, and being provided by a service provider.

20 A *client* is a private person or a juridical person, such as a company, that has arrived at an agreement, with someone (a person or a company) that provides services or makes services available (i.e. service and access provider, respectively).

25 A *user* can be anyone or anything that can be given the possibility to access certain services.

A *client structure* is associated with a number of services made available for a client, and a number of users having certain access to a subset of said services.

30 An *authority profile* defines the level of authority with which certain services can be accessible by a user associated to said authority profile.

The basis for the present invention is the insight and the importance of placing a user in focus. This
35 insight of having a user as the centre of attraction, demands a flexible system of available services.

The present invention makes it possible for different actors on the market to create a common world for a user. The user will have one single entrance to this common world, e.g. by means of a single login
5 procedure on a web page, where he will have access to all for him available client structures and services.

Thus, the invention provides for a service platform which e.g. can be accessed via the Internet and which gives users access to different services provided by
10 different actors, such as service providers. In particular, the invention provides for enabling access to services initially associated to another group of users, i.e. another client structure. The service platform is created and operated by an access provider. The access
15 provider gives service providers, such as companies, the possibility to interact with the service platform and to offer services to clients registered with the access provider. The services can be anything from Internet services, such as weather forecasts, to node related
20 services such as controlling an electrical appliance at home.

A client which is registered with the access provider can be a large company, but it can also be a single private person. For every client, the access
25 provider defines a respective client structure. In each client structure there must be at least one user. The user is thus the one who actually uses the provided services, while the client is liable for the used services. Naturally, a client and a user may be one and
30 the same person.

The client structures per se are preferably not connected to each other in any way. They are completely separate structures. However, one and the same user can be associated with different client structures.

35 In one embodiment of the present invention, this service platform provides users with a user interface, such as graphical user interface, e.g. a web page or

other computer related interface, or a telephone related interface, by means of which different services and client structures may be accessed. Thus, a user can e.g. access a client structure by a simple login on a web page
5 of the access provider. After the login he will see what services (e.g. Internet services and node services) he may use, and also what other client structures he may access. The user may proceed in a corresponding way over a telephone, using e.g. DTMF tones.

10 According to another embodiment of the invention, each client assigns at least one user having a highest level of authority in the client's client structure. This user, a superuser, is provided with the ability to give other users authority to access said client structure and
15 a subset or all of the services associated thereto. The other users may very well be users that are already assigned to other client structures.

A client structure comprises preferably at least two levels of authority, one of said levels being the highest
20 level, which in practice would normally mean full authority or full access to the services in said client structure.

A superuser is preferably able to define different levels of authority for different services. The superuser
25 may even associate new services to a client structure, and of course assigning new users, which may already have been associated with other client structures. Suitably, the superuser is provided with the additional ability of giving a new user, i.e. a user not yet associated with
30 any client structure, authority to access the client structure of said superuser. Preferably, a superuser also has the option of removing users or services from the client structure.

Different levels of authority may have different
35 types of limitations, such as to what extent a service is accessible, or in what way a service may be manipulated, or at what time or place, etc. Some users, not being

superusers, may even have the same rights as the superusers for a certain subset of the available services.

According to one embodiment of the invention, the
5 level of authority for the users in a client structure, is defined by authority profiles. A user thus becomes a superuser when being associated to the authority profile that allows full access and manipulation of services, including adding and/or removing services and/or users. A
10 superuser may also define different authority profiles for different services. In some cases, it may be suitable to have some authority profiles predefined by a system configuration.

One of many advantages of utilising authority
15 profiles is, that if you wish to change the authority for a large group of users, you do not need to change that authority for each and every one of them. The only thing that has to be done is simply a redefinition of the authority profile, to which the group of users is
20 associated, thereby changing the authority of the whole group. It goes without saying that there may at some instances exist a set of identical authority profiles in a client structure, wherein different groups of users are associated to a respective one of said set.

25 As previously mentioned, a client could be a private person who has come to an agreement with the access provider. Being a client he will have a client structure registered with the access provider. Every client structure needs at least one user assigned thereto. In
30 the case of a private person being the client, the person himself would suitably be assigned as a superuser, i.e. he would be associated with the top authority profile of that structure.

In case of a company being a client, it may be
35 suitable to assign one or several users with full authority, depending on different factors, such as the size and different locations of the company.

The present invention provides a highly flexible solution for making services readily accessible for different parties. It also provides a countless number of possible implementations, of which only a few will be
5 given by way of elucidative examples.

For instance, a private person may be a superuser in his own client structure. He becomes an employee in a company, and for carrying out certain tasks, he needs to have access to pieces of information, e.g. reading some
10 reports. The company, also being a client, has its own client structure. A superuser in this client structure will then assign the new employee thereto, with access to said piece of information. The level of authority will e.g. include "reading, but not revising". When the same
15 private person is on holiday, far away from his house, he would like someone to make sure that the lawn in the garden is watered (but only if it is dry), by switching on the sprinkling system. He then gives his neighbour certain access to his client structure, namely to the
20 service associated with the control of the sprinkler system. In this way the neighbour will in a dry period, with almost no hassle at all, be able to water the other person's garden. All he has to do is to access the client structure of the other person, in which he has the
25 authority to switch on the sprinklers, and activate the system.

A user can preferably access a client structure, to which he is assigned, by means of a computer or a telephone. In case of a computer, the user can visit on
30 the Internet a web site of the access provider. After a login procedure, including stating some sort of personal identification code, the user will come to a private homepage. On this private homepage he will be able to see what services are available and, preferably, which level
35 of authority he has to the different services. On the private homepage, he will also have icons or references to all the client structures in which he is an assigned

user. Thus, by clicking on one of these references he enters a specific client structure, and will there be able to access a number of services.

If a user would like to have access to or order
5 other services which are not yet available in the client structures to which he is associated, he may suitably visit a web page of the access provider. On or via such a page or pages, the user will be able to select new services provided by different service providers. If the
10 user wishes to order a new service to a specific client structure to which he is assigned, he must, preferably, be associated with an authority profile in that structure that allows him to carry out the ordering procedure.

A server of the access provider preferably performs
15 the functions of a centre or interception point for communication. Suitably, the server comprises software for administration of the network that interconnects the services and client structures, and also software for the different services offered by the service providers.
20 Thus, when a user in a client structure wishes to use or order a certain service and therefore sends a signal from his homepage to the access provider server, it will be forwarded from said server to the specific service provider, so that said specific service provider for
25 example will know which client to invoice for the provided services.

If a client with a client structure that has many users, such as a company, would like to change some client data e.g. the address, all the different service
30 providers would need to be notified. Since the server of the access provider serves as a link between the client structures and the service providers, the client (or rather a user) will only have to inform the access provider. The access provider will in turn communicate
35 said information further to the different service providers. The service providers will now be aware of

said changed client data of said client and associated users.

In accordance with the present invention, it is possible for users to be part of different client structures, and be associated to new ones. Here follows an illustrative example. In case a first user assigned to a first client structure wishes to give a second user assigned to a second structure authority to access said first client structure, the first user can on his private homepage register the second user. Suitably, the first user types in, at an entry on his homepage, some kind of user identification that identifies the second user. The first user may then define which services the second user will have access to, and to what extent. Now the next time the second user logs in, via the access provider site, on his homepage, he will have a new reference, namely a reference to the first client structure and its corresponding services. Obviously, it is possible to associate more than one "second user" to a client structure. Thus, it should be apparent that the present invention provides excellent possibilities for different users to access different client structures and therewith associated services. There are basically infinite opportunities of cross-linking users and client structures, wherein the server of the access provider is the "spider in the web".

According to one embodiment of the present invention, a service can be related to a local gateway node associated to a client structure. Such a local gateway node is preferably in communication with locally distributed nodes. The gateway node and the locally distributed nodes can be installed at a location being accessible over a communications network, such as for instance in a building. Suitably, the locally distributed nodes are operatively connected to appliances of different types, for controlling, monitoring or data collecting purposes. In an "intelligent house" the

locally distributed nodes can be connected, for instance, to the fridge for detecting opening and/or closing thereof, or to the electricity meter for monitoring the power consumption, or to a flat-iron for warning if it has not been switched off, etc. Suitably, the locally distributed nodes communicate information to the local gateway node over the power mains (e.g. by means of the LonWorks standard). The locally distributed nodes can also via the local gateway node be used for controlling some appliances. When a new locally distributed node is installed, the local gateway node will sense this and inform the access provider. The access provide will then preferably present different services related to that new node.

15 The server of the access provider can be provided with program modules supporting the various locally distributed nodes. The program modules are commonly provided by the service providers. Thus, a user can from his homepage (or a telephone) in the access provider system, control different appliances.

20 Thus, in accordance with one embodiment of the invention, a person being at work at the company in which he is employed, may currently be operating in the client structure of the company. The person is thus a user with a certain level of authority in said client structure. Earlier in the morning he had the foresight of placing a ration of packaged food in his microwave oven. Just before leaving the office in the evening, he enters his own client structure (in which he is a superuser) by pointing and clicking on a reference on the page associated with the company's client structure. Of all the different services he has access to, one is e.g. related to the control of his microwave oven. The access provider server has been provided by the specific microwave oven service provider with a program for controlling microwave ovens. From the office computer, the person will thus set his microwave oven to cook the

food so that it will be ready and hot by the time he gets home. As explained earlier, the communication goes via the access provider server. Said server will use the relevant program and send signals to a local gateway node
5 directly associated with the person's own client structure. In this case, the signals will be sent to a local gateway node located in the person's house. Subsequently, the local gateway node will forward the signal to the locally distributed node being either
10 integrated with or as a separate unit operatively connected to the microwave oven. The microwave oven will start cooking the food in accordance with the commands sent by the person.

It should be noted that a local gateway node is
15 directly associated with a client and not with the users in the client's client structure. Thus, a specific local gateway node can preferably only be associated with one unique client structure. The node services provided by the service providers are related to the corresponding
20 locally distributed nodes, enabling users to control, monitor etc. different appliances. In turn, the locally distributed nodes have a connection with the local gateway node which is associated with a specific responsible client.

25 The service providers can naturally also provide programs related to web or telephone services. An example of such a service is for instance meteorological weather forecast services provided by a weather bureau. A user will readily be able to have the latest weather forecast
30 over the computer or the telephone. There are of course many other examples of services, such as traffic information, stock-exchange quotation, etc..

The programs provided by the service providers are suitably software modules which the access provider,
35 preferably after inspection, will connect to a service control module being operatively connected to the access provider server.

Evidently, service providers can also be clients or users in the same way as any other person or company. A first service provider may have a client structure, with which services from a second service provider are
5 associated. Some of the users of the client structure of said first service provider may even have access to the client structure of said second service provider. This can be practical in a group of companies.

Also, it is possible for a number of companies
10 (clients) that have a respective client structure to constitute an organisational entity, wherein one of the client structures is a controlling client structure being superior to the others.

It should be clear from what has been stated above
15 that the present invention provides a flexible service platform which puts the users in focus. According to the invention, users may interact with several client's client structures. A user of a first client structure may enter the system of the access provider and alter certain
20 data, such as allowing another user from another client structure to have access to the first client structure and services associated therewith. Thus, this is an active action in real time. The user may also enter the system and modify which services that are to be
25 accessible from his client structure. This is also an active action in real time.

Brief description of the drawings

The invention will now be described with reference
30 to the accompanied drawings, in which:

Fig. 1 illustrates the inventive concept of the present invention;

Fig. 2 illustrates schematically a client structure of the present invention;

35 Fig. 3 illustrates schematically an infrastructure for the present invention;

Fig. 4a and Fig. 4b illustrate a graphical user interface for accessing different services and different client structures, in accordance with the present invention; and

- 5 Fig. 5 schematically illustrates a database structure.

Detailed description of preferred embodiments of the
Invention

- 10 Fig. 1 illustrates the inventive concept of the present invention. Three clients are represented in the figure: a first client C1, a second client C2 and a third client C3. The different clients have one or more users assigned to their respective client structures. As can be
15 seen, the users are represented by stick figures, wherein the larger sized stick figures represent superusers having a highest level of authority and having the ability to associate users from other client structures.

- Thus, the first client C1 has in its client
20 structure a first user U1, a second user U2 and a third user U3. The first user U1 is a superuser. The second client C2 has also three users, namely the second user U2, the third user U3, and additionally a fourth user U4. In this client structure, the second user U2 is assigned
25 to be superuser. Thus, a possible scenario may have been that the second user U2, also being superuser of the second client C2, needed access to the first client's C1 client structure. Therefore, the user U1, being superuser of the first client C1, gave the second user U2 authority
30 to access the first client structure. Note, however, that in the first client's C1 client structure, the second user U2 is just an ordinary user. It can also be noted that the third user U3 is just an ordinary user (i.e. not a superuser) in both the first and the second client's
35 C1, C2 respective client structure.

 Moving on to the third client C3, it can be observed that there is only one user, namely said fourth user U4,

who is also the superuser in this client's C3 client structure. This is the typical case of a private person having his own client structure, while the previous ones could illustrate two companies (or private persons giving
5 other people access). As mentioned previously, the fourth user is also associated to the second client's C2 (e.g. a company) client structure, but only as an ordinary user.

For reasons of clarity only three clients have been illustrated and with a very limited number of users.
10 However, it should be obvious that many more users can be associated to one and the same client structure, as well as one and the same user can be associated to many more client structures.

Fig. 2 illustrates schematically a client structure
15 10 of the present invention. For a client 12 of an access provider a client structure 10 is registered with said access provider. As can be seen in the figure, a client structure 10 includes, besides the client 12, users 14, services 16 and local gateway nodes 18. In the right side
20 of the figure a definition of the relationship between "one" and "many" is illustrated, wherein a single connection represents "one" and a branch-off with three connections represents "many". Accordingly, the figure shows that in a client structure 10 a single client 12
25 can have several associated users 14, several types of services 16 and also several associated local gateway nodes 18.

Essentially, the local gateway nodes 18 are also associated to some type of service (cf. the microwave
30 oven case). It should be noted however that a local gateway node 18 is a physical device in a certain location, for communication with locally distributed nodes that actuate, control or monitor different appliances, whereas the other services 16 can incorporate
35 web related services, such as weather information. It should also be appreciated that the local gateway node 18 is directly associated with the client 12 and not with

the users 14. The same applies to the other services 16. Thus, for a user 14 being able to use a specific local gateway node 18 or its connected locally distributed nodes, he must be a user 14 in the client structure 10 to which the local gateway node 18 is associated. Suitably, he must also have a certain level of authority allowing him to make use of the local gateway node 18.

Fig. 3 illustrates schematically an infrastructure for the present invention. The figure shows a server 20 of the access provider, a personal computer 22 and a house 24 in which a local gateway node 26 is located. The local gateway node 26 is connected for communication over e.g. the power mains to three locally distributed nodes 28a, 28b and 28c, operatively connected to different types of appliances (not shown). The server 20 of the access provider has an integrated or otherwise operatively connected service control module 30, which is illustrated in the form of a comb, and said server 20 also includes a database 32 with different client structures. The service control module 30 enables different service providers to interact with the system of the access provider. The service providers provide the access provider with software modules which are connected to the service control module 30. This is illustrated by the squares 34a, 34b and 34c inserted in the comb.

A user in a client structure may be able to access services associated therewith by means of the personal computer 22. He will also be able to access other client structures to which he is assigned with respective associated services. Preferably, in order to access the client structures or the access provider system, the user must follow a certain login procedure, in which he must identify himself, e.g. with a password, PIN-code, or any other suitable way. The computer 22 suitably communicates over a data communications network, such as the Internet, with the server 20 of the access provider. The database 32 associated with the server 20 includes information of

which services in said client structures are available for said user, and with what level of authority. The database 32 also points out how different users are connected to the same or different client structures.

5 Thus, it only takes one login procedure to access or order practically any available service.

The services are, as mentioned, provided by means of software modules 34a, 34b and 34c, and can include web services, such as weather information, or node related

10 services, such as control of a microwave oven. Suitably, the access provider checks the programs provided as software modules, before connecting them to the system. At a received request from a user to access a certain service, the server 20 of the access provider will,

15 preferably, by means of the corresponding software module 34a, 34b or 34c forward the request and obtain the relevant service. The software modules 34a, 34b, 34c are suitably developed by a respective service provider or another party engaged by the service provider.

20 If e.g. a user wishes to change the room temperature in his summer cottage or house 24, he may from any computer 22 send the request to the server 20 of the access provider. The server 20 will retrieve the relevant program and in accordance therewith send command signals

25 to the local gateway node 26 located in the cottage or house 24. The local gateway node 26 will, in turn, communicate with a locally distributed node 28a, 28b or 28c connected to the temperature regulator of the cottage or house 24.

30 Fig. 4a illustrates a graphical user interface for accessing different services and different client structures, in accordance with the present invention. This schematic drawing illustrates a web site available to a user after he has gone through a login procedure on

35 his computer. Many items may be visible on the web page, however, for the sake of clarity, only services and client structures are shown. In this case, there are

eight different activated services S1...S8, represented by circle references, available to the user in the current client structure. Also, the user has access to three client structures C1, C2 and C3, represented by square references. Preferably, the reference or icon
5 representing the current client structure (C1 in this case) is marked or highlighted.

By e.g. pointing the insertion pointer to a service reference or icon, and clicking the mouse of the
10 computer, the user will access the desired service, as explained previously. Likewise, if the user wishes to enter another client structure to which he is associated, he points and clicks on a client structure reference.

Fig. 4b illustrates what happens if the user selects
15 another client structure. A new picture comes up. The three client structure references C1, C2 and C3 are still the same as in Fig. 4a. This is quite natural, since the user is still associated with these three client structures, no more nor less, but now another reference
20 is marked or highlighted (C3). However, in this client structure he has only access to five activated services S3, S8, S9, S11 and S12. Of course, some of the services (S3, S8) may be the same as in the first client structure, other services (S9, S11, S12) may be
25 completely different.

Fig. 5 schematically shows an illustrative example of how tables in a database structure may be designed. The tables have been kept short and simple for the sake of clarity. In this case, the database includes different
30 authority profiles, wherein various users and services are associated to various authority profiles. Of course, there are many ways to implement and realise databases of an access provider, wherein it is to be understood that the present Fig. 5 is merely shown by way of example.

35 Thus, six tables are shown. Table 1 relates to clients including client identities and client names. Table 2 relates to users including user identities and

user names. Table 3 relates to services, both web or telephone related informational services and node related service, including service identities and service names. Table 4 relates to authority profiles including profile identities, profile names and client identities. Table 5 is a relational table including profile identities and user identities. Tables 6 is a relational table including profile identities and service identities.

In Table 1 three names are presented, a private person named Smith, and two companies A and B. In Table 2 four different users are listed. In Table 3 six different services are listed, wherein the first four are node related services: temperature control and burglar alarm. The two last services in the table are web related services: stock-exchange update and traffic information. In Table 4 the three first profiles have authority 1, which suitably corresponds to superuser profile. As can be seen in right column in Table 4, each of the listed clients have a profile with authority 1. Furthermore, Client-ID 3, i.e. Company B, has two more associated authority profiles: authority 2 and authority 3.

Looking at Table 5, one can see that User-ID 1, i.e. Smith, is associated to Profile-ID 1 and 3. That means, looking at Table 4, that Smith is superuser in both his own client structure "Smith" and in the client structure of Company B. Having a glance at Table 6, one can observe that with said Profile-ID 1 and 3 are associated Service-ID 1 and 5, and, 4 and 6, respectively. Thus, in his own client structure, Smith has a temperature control service (Service-ID 1), such as the example with the summer cottage. He also has a web service (Service-ID 5), with which he gets stock-exchange information. In the client structure of Company B, Smith has access to the burglar alarm system (Service-ID 4), which is typically a node related service. In that client structure, he also has access to the traffic information service (Service-ID 6).

In the same way, it is possible to look up to which client structures other users are linked and to which services they have access, and also their level of authority.

5 Naturally this sort of tables may include other information such as e.g. client and/or user address, and other relevant data.

10 It should be noted that numerous modifications and variations can be made without departing from the scope of the present invention defined in the accompanied claims.

15 Thus, it is to be understood that even though some specific services have been pointed out, they are only elucidative examples for the ease of understanding.

15 Obviously, many others are conceivable.

20 Also, even if the previous description for the most part has emphasised computer based communication, other means are equally possible. For instance, a user can communicate by means of a telephone which is capable of transmitting DTMF-tones or by means of a cellular phone WAP-interface, etc..

25 Moreover, the database or databases of the access provider can be designed in numerous ways depending on different factors, such as relevant client, user and/or service information, client structure components etc.. Thus, different alternatives are possible for implementation in accordance with the purpose of the invention.

30

Claims

1. A method for providing users with access to services provided via an access provider, including the steps of:
- 5 registering, for a number of clients, a respective client structure with the access provider, each client structure including a corresponding set of services made available by the access provider;
- 10 assigning at least one user to each client structure; and
- providing a first user assigned to a first client structure with the ability to give a second user assigned to a second client structure authority to access said
- 15 first client structure.
2. The method as claimed in claim 1, wherein said first user is a superuser having a highest level of authority to said client structure and its corresponding
- 20 set of services.
3. The method as claimed in claim 2, wherein said superuser gives said second user authority to access said first client structure with a certain level of authority,
- 25 said first client structure being associated with at least two levels of authority.
4. The method as claimed in claim 2, wherein said superuser associates at least one second user with a
- 30 specific authority profile, said profile defining a level of authority for accessing or manipulating a corresponding subset of services.
5. The method as claimed in claim 3 or 4, wherein
- 35 different levels of authority are either predefined by a system configuration or defined by a superuser at an arbitrary time.

6. The method as claimed in any one of claims 2 - 5,
wherein said superuser has the additional ability to give
a user not yet associated to a client structure authority
5 to access said first client structure with a certain
level of authority, said first client structure being
associated with at least two levels of authority.

7. The method as claimed in any one of claims 3 - 6,
10 wherein said certain level of authority is the highest
level of authority.

8. The method as claimed in any one of claims 1 - 7,
wherein at least some of said services provided via said
15 access provider are defined by at least one external
service provider.

9. The method as claimed in any one of claims 1 - 8,
wherein at least some of said services provided via said
20 access provider are defined by said access provider.

10. The method as claimed in any one of claims 1 -
9, wherein a user is a physical person.

25 11. The method as claimed in any one of claims 1 -
9, wherein a user is a juridical person.

12. The method as claimed in any one of claims 1 -
11, wherein said set of services includes a number of
30 services provided via a local gateway node associated to
a client structure, said local gateway node being
arranged in communication with a number of locally
distributed nodes.

35 13. The method as claimed in claim 12, wherein a
locally distributed node which is operatively connected

to a local gateway node, is associated with the same unique client structure as said local gateway node.

14. The method as claimed in any one of claims 12 -
5 13, wherein said local gateway node and said locally distributed nodes are installed at a location being accessible by said access provider over a communications network.

10 15. The method as claimed in claim 14, wherein said local gateway node and said locally distributed nodes are installed in a building.

15 16. The method as claimed in any one of claims 12 - 15, wherein said locally distributed nodes are operatively connected to appliances of different types, for controlling, monitoring or data collecting purposes.

20 17. The method as claimed in any one of claims 1 - 16, including the step of associating each assigned user with a user interface with which said client structure is accessible.

25 18. The method as claimed in claim 17, wherein said user interface is a graphical user interface, such as a web page.

30 19. The method as claimed in claim 18, wherein the user interface associated with said second user includes references to the first client structure, in which structure said second user has been given a certain level of authority.

35 20. The method as claimed in any one of claims 1 - 17, wherein said services are adapted to be accessed from a telephone which is capable of transmitting DTMF (Dual Tone Multi Frequency) tones.

21. The method as claimed in claim 20, wherein said first client structure is accessible by said second user by transmitting specific series of DTMF tones, in which
5 structure said second user has been given a certain level of authority.

22. The method as claimed in any one of claims 1 - 21, wherein a number of companies which are clients
10 having a respective client structure constitute an organisational entity, wherein one of the client structures is superior to the others.

23. A system for providing users with access to
15 services, including:

a server providing an interface for enabling different users to interact with the system;

a service control module for enabling different service providers to interact with the system, said
20 service control module being operatively connected to said server;

said server including a database with different client structures, each client structure being associated with a client and including at least one authority
25 profile with which a first user of the client structure has the authority to give a second user of a second client structure authority to access said first user's client structure.

30 24. The system as claimed in claim 23, which further includes a local gateway node associated to a client structure, said local gateway node being arranged in communication with locally distributed nodes operatively connected to appliances of different types.

35

25. The system as claimed in claim 24, wherein a locally distributed node which is operatively connected

to a local gateway node, is associated with the same unique client structure as said local gateway node.

26. The system as claimed in any one of claims 23 -
5 25, wherein said interface is a graphical user interface, such as a web page, including references to client structures with which a user is associated.

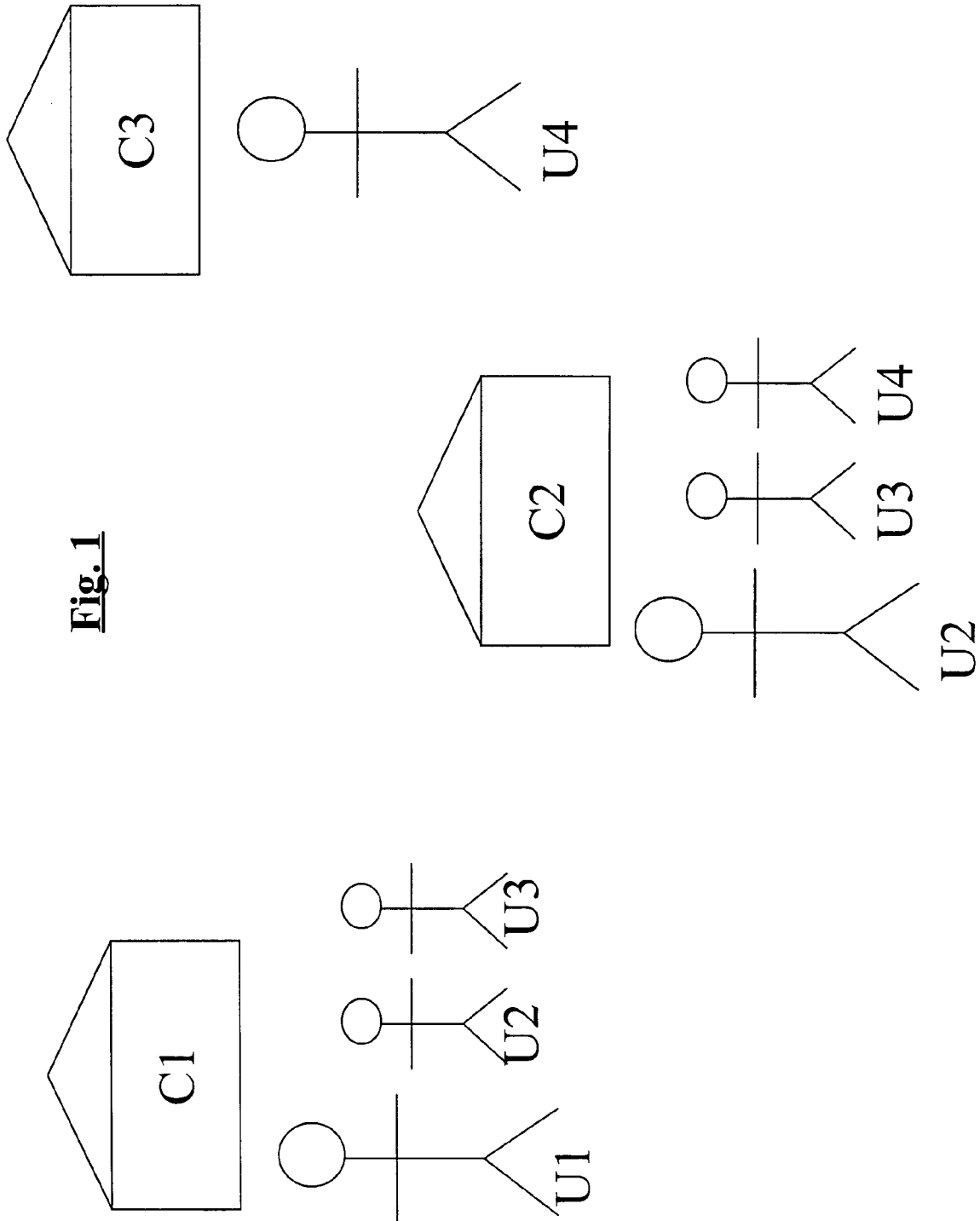
27. The system as claimed in any one of claims 23 -
10 25, wherein said services are adapted to be accessed from a telephone which is capable of transmitting DTMF (Dual Tone Multi Frequency) tones, and wherein client structures are accessible by an associated user by means of specific series of DTMF tones.

15

28. The system as claimed in any one of claims 23 -
27, wherein said service providers interact with the system by means of software modules installed for being operatively connected to said service control module.

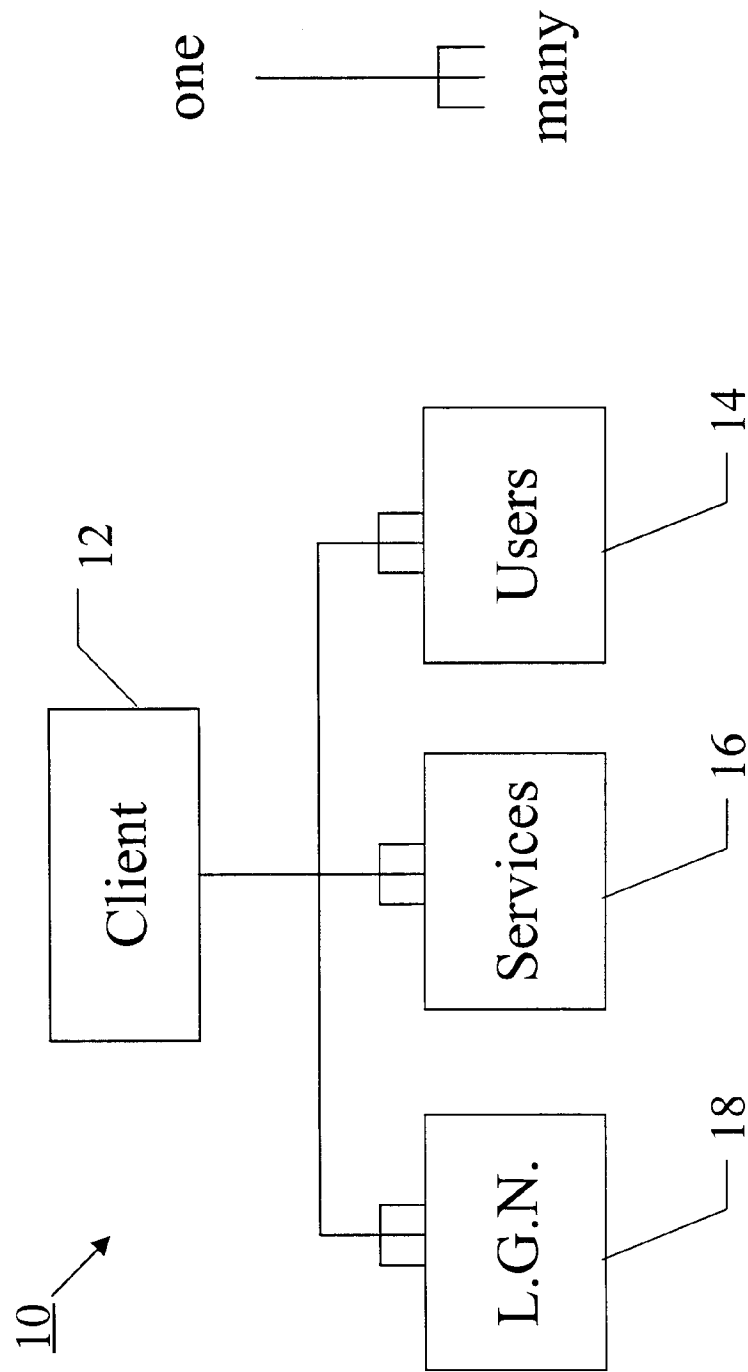
20

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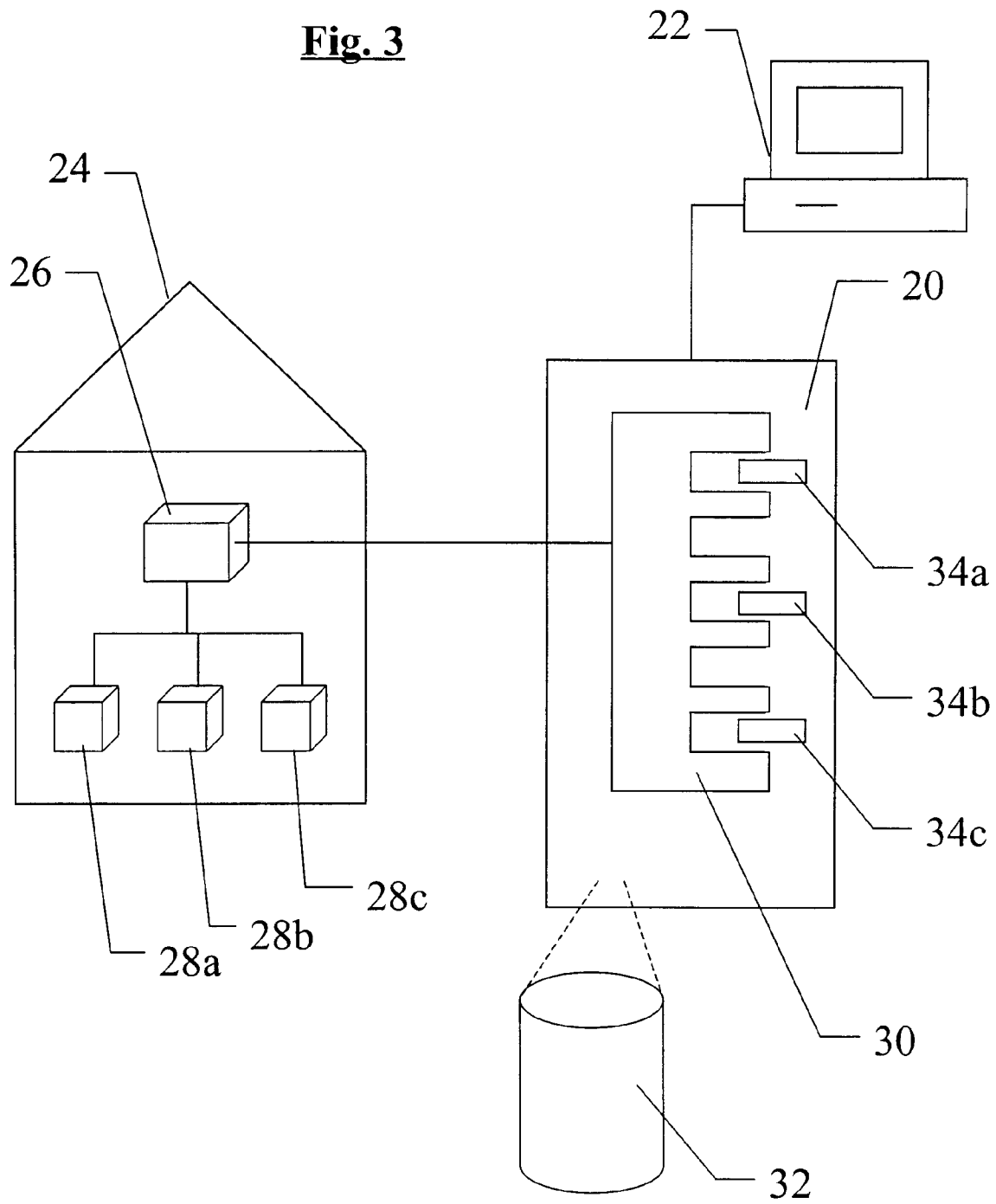


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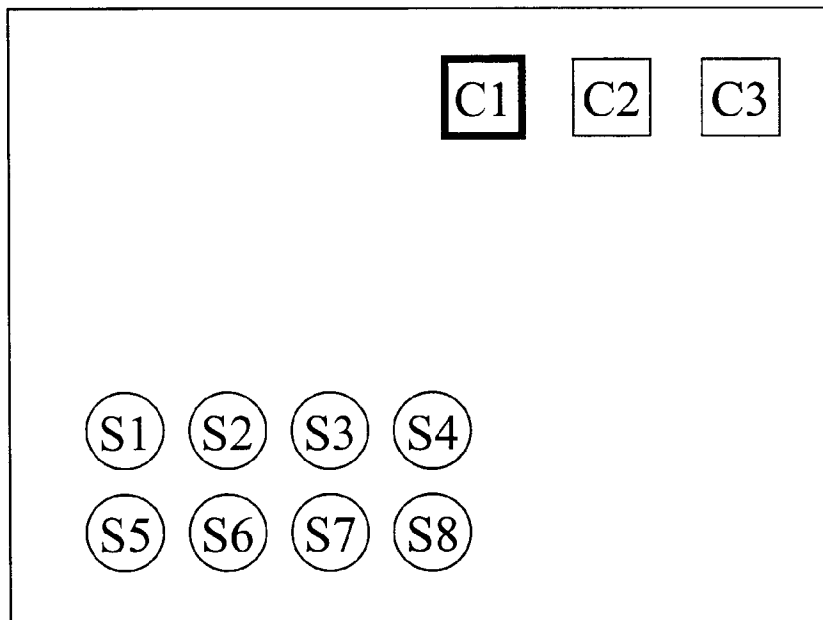
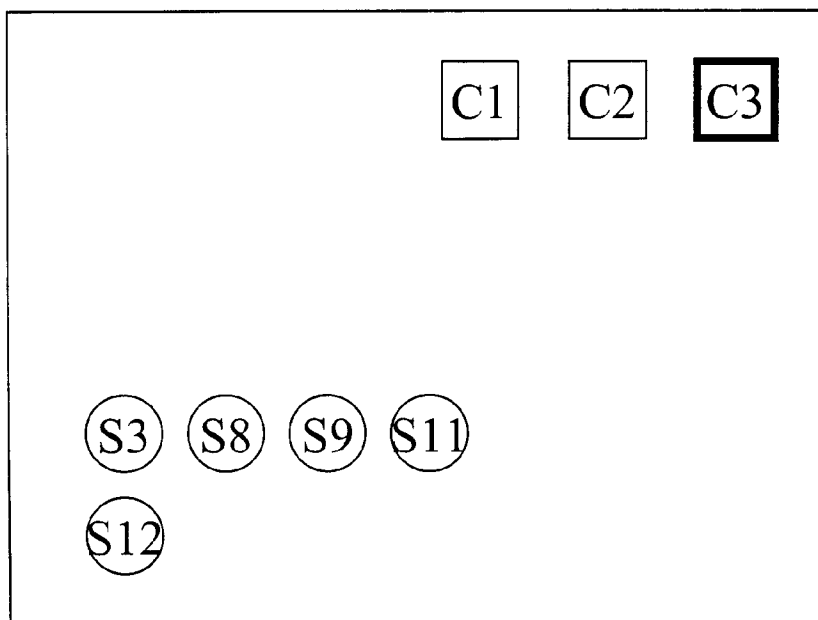
Fig. 2



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Fig. 3

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Fig. 4a**Fig. 4b**

5/5

Table 1

Clients	
<u>ID</u>	<u>Name</u>
1	Smith
2	Company A
3	Company B
...	...
...	...

Table 2

User	
<u>ID</u>	<u>Name</u>
1	Smith
2	Jones
3	Cain
4	Bolton
...	...
...	...

Table 3

Services	
<u>ID</u>	<u>Name</u>
1	Temp. S
2	Temp. B
3	Temp. C
4	Alarm B
5	Stock-ex.
6	Traffic info.
...	...
...	...

Fig. 5**Table 4**

Authority profiles		
<u>ID</u>	<u>Name</u>	<u>Client-ID</u>
1	Auth. 1	1
2	Auth. 1	2
3	Auth. 1	3
4	Auth. 2	3
5	Auth. 3	3
...
...

Table 5

Profile_User_relation	
<u>Profile-ID</u>	<u>User-ID</u>
3	1
3	2
4	3
1	1
2	4
...	...
...	...

Table 6

Profile_Service_relation	
<u>Profile-ID</u>	<u>Service-ID</u>
1	1
1	5
2	2
3	4
3	6
4	4
...	...
...	...

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 01/00645

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04Q 7/32, H04Q 7/38, G07F 7/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: G06F, G07F, H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	US 4837422 A (DETHLOFF ET AL), 6 June 1989 (06.06.89), abstract --	1-28
A	WO 9610812 A1 (INTERNATIONAL BUSINESS MACHINES CORPORATION), 11 April 1996 (11.04.96), abstract -- -----	1-28

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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Date of the actual completion of the international search

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Information on patent family members

02/07/01

International application No.

PCT/SE 01/00645

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